FIG. 1
(PRIOR ART)

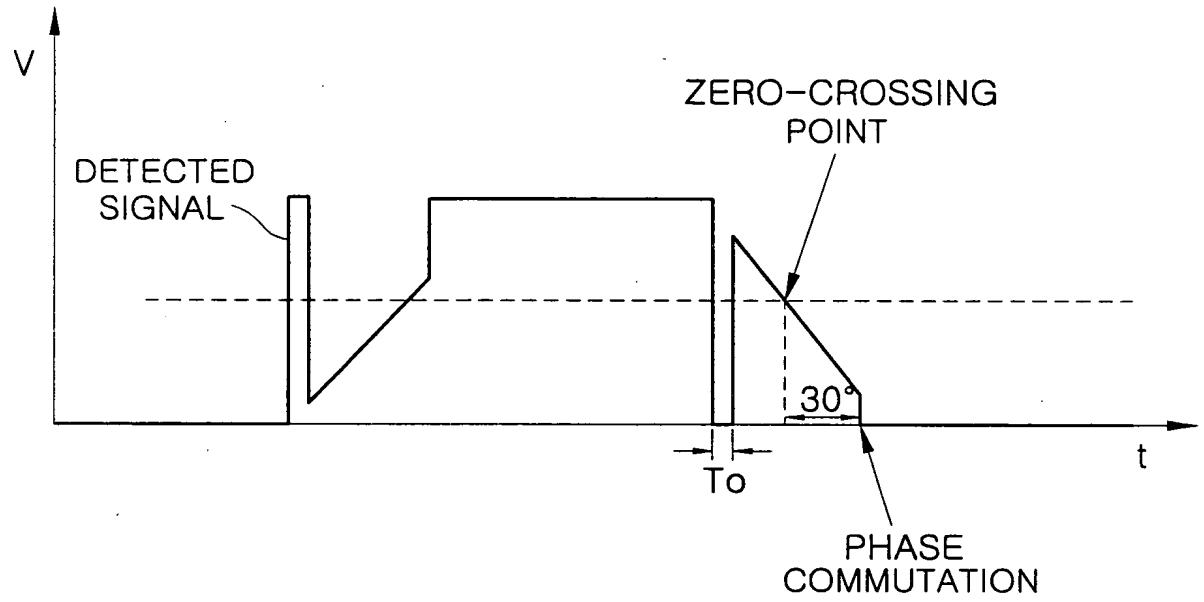


FIG. 2

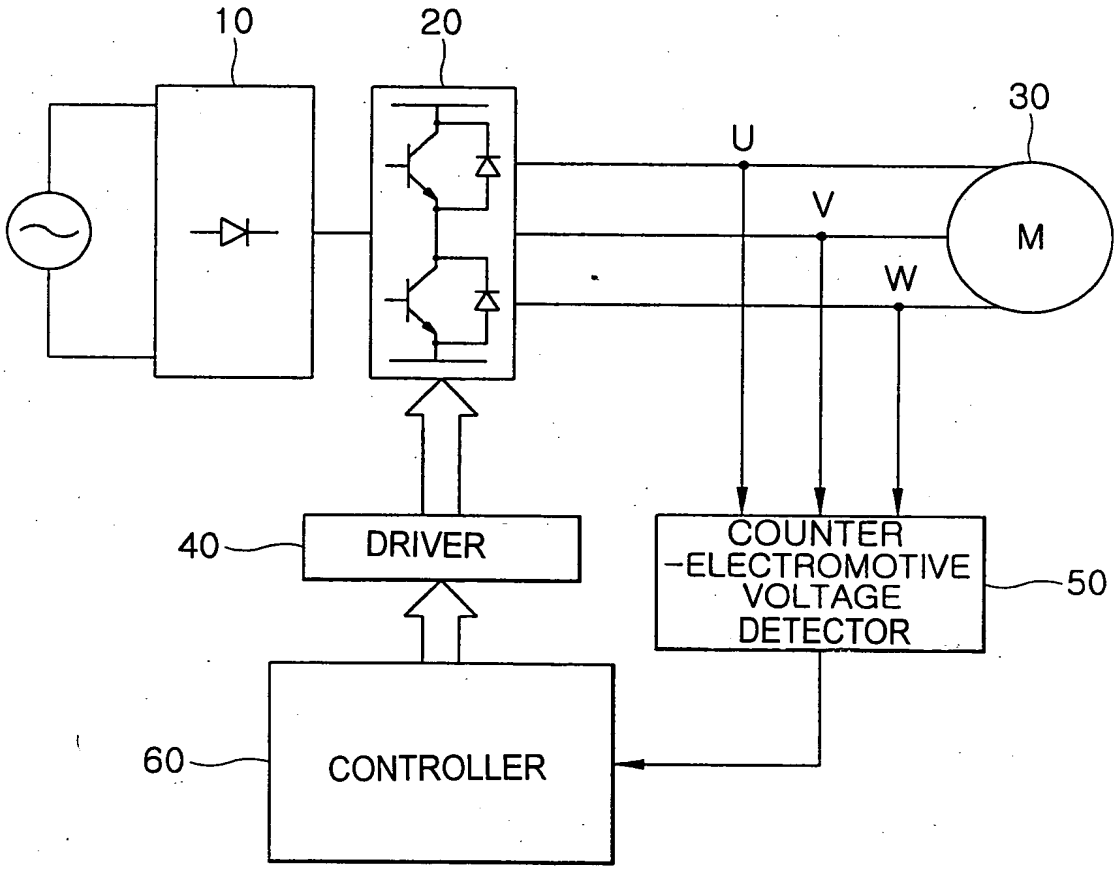

10
20
30
U
V
W
M
40
DRIVER
COUNTER
-ELECTROMOTIVE
VOLTAGE
DETECTOR
50
60
CONTROLLER

FIG. 3

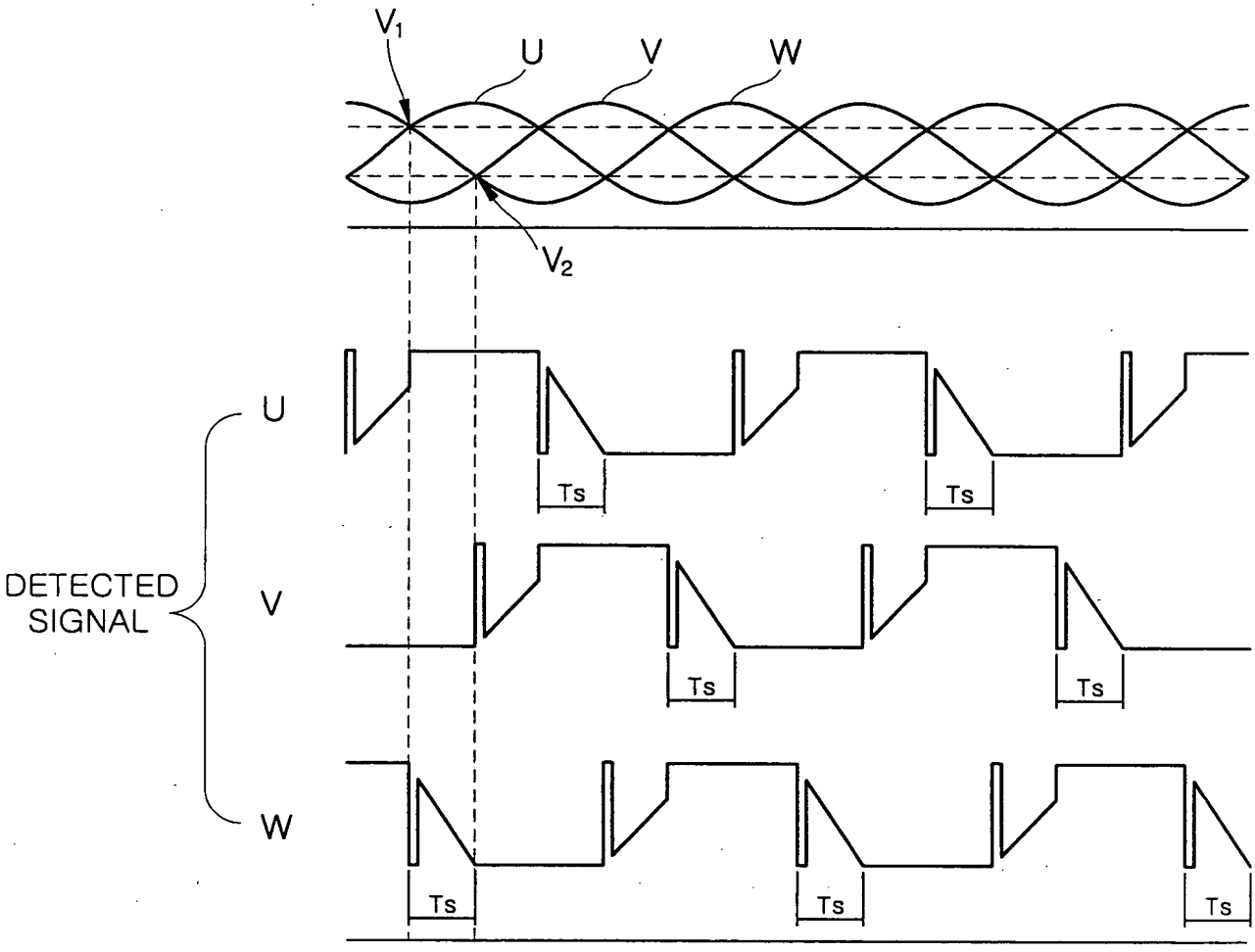


FIG. 4

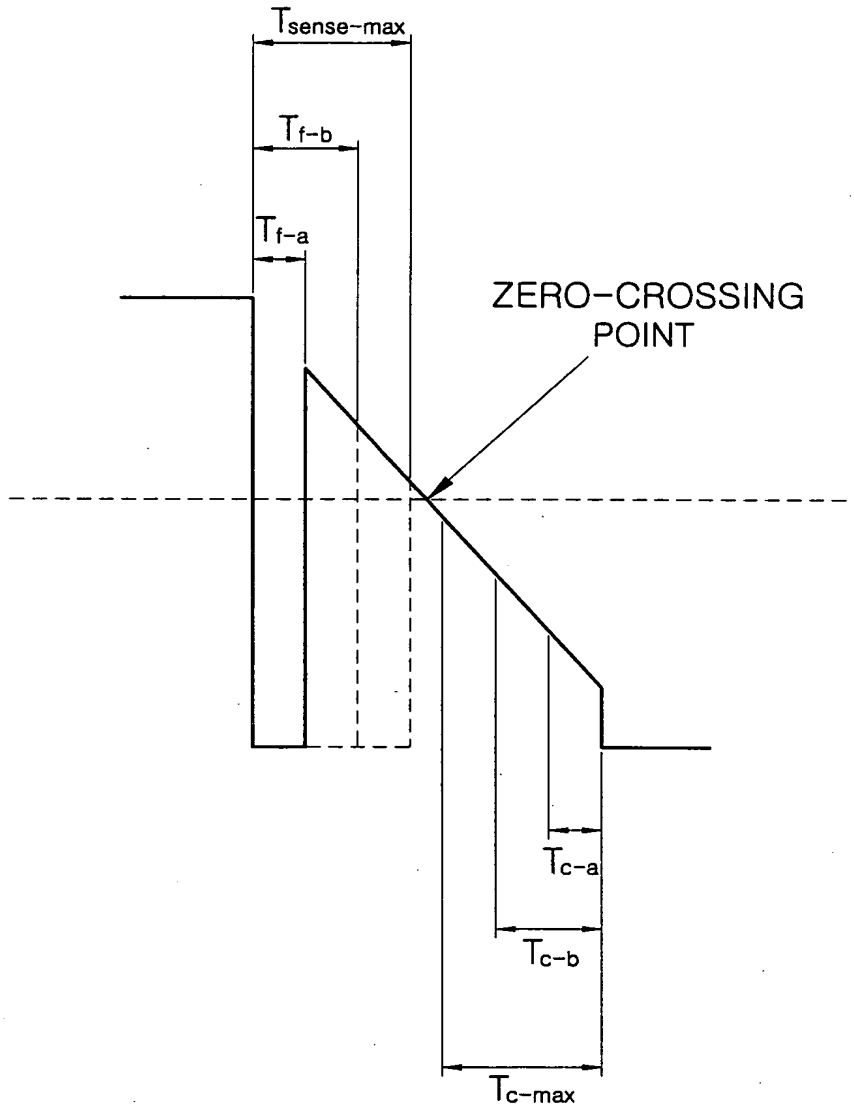


FIG. 5

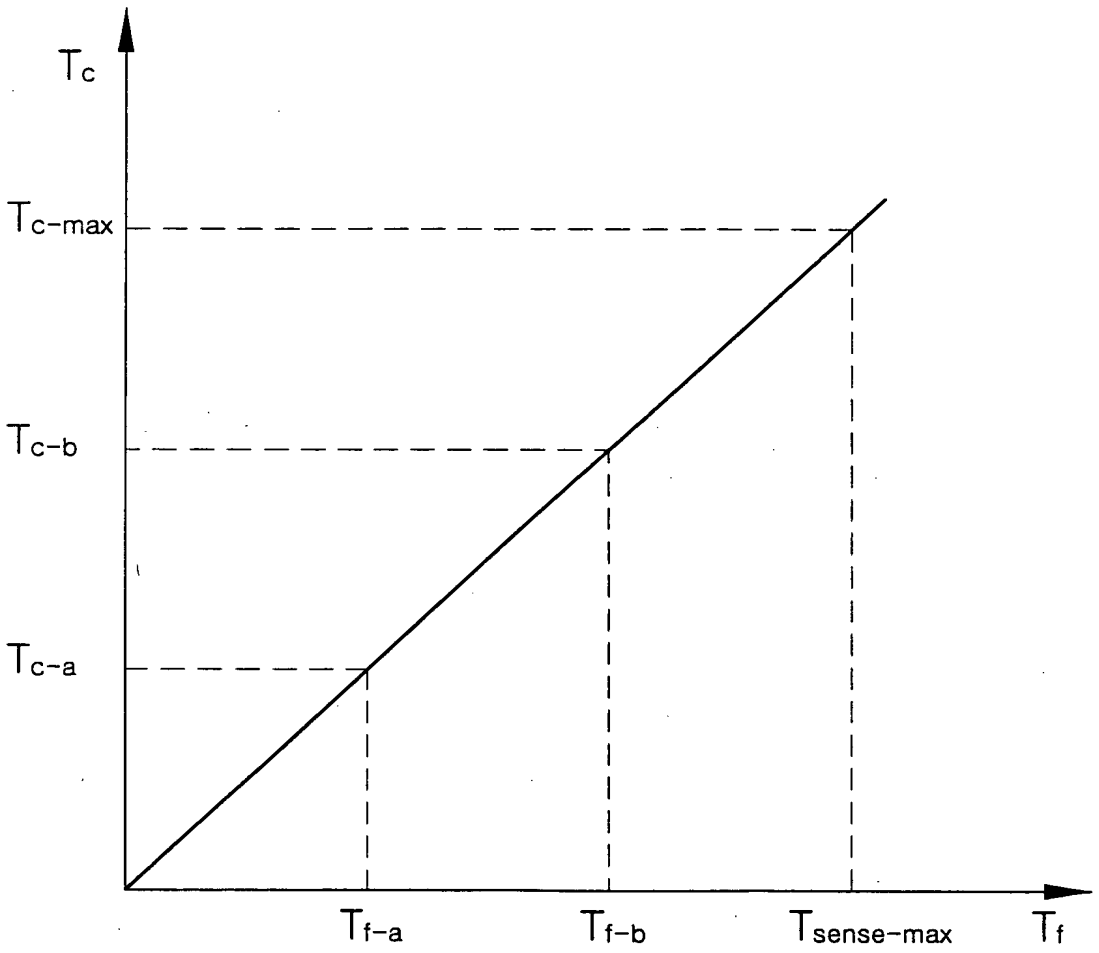
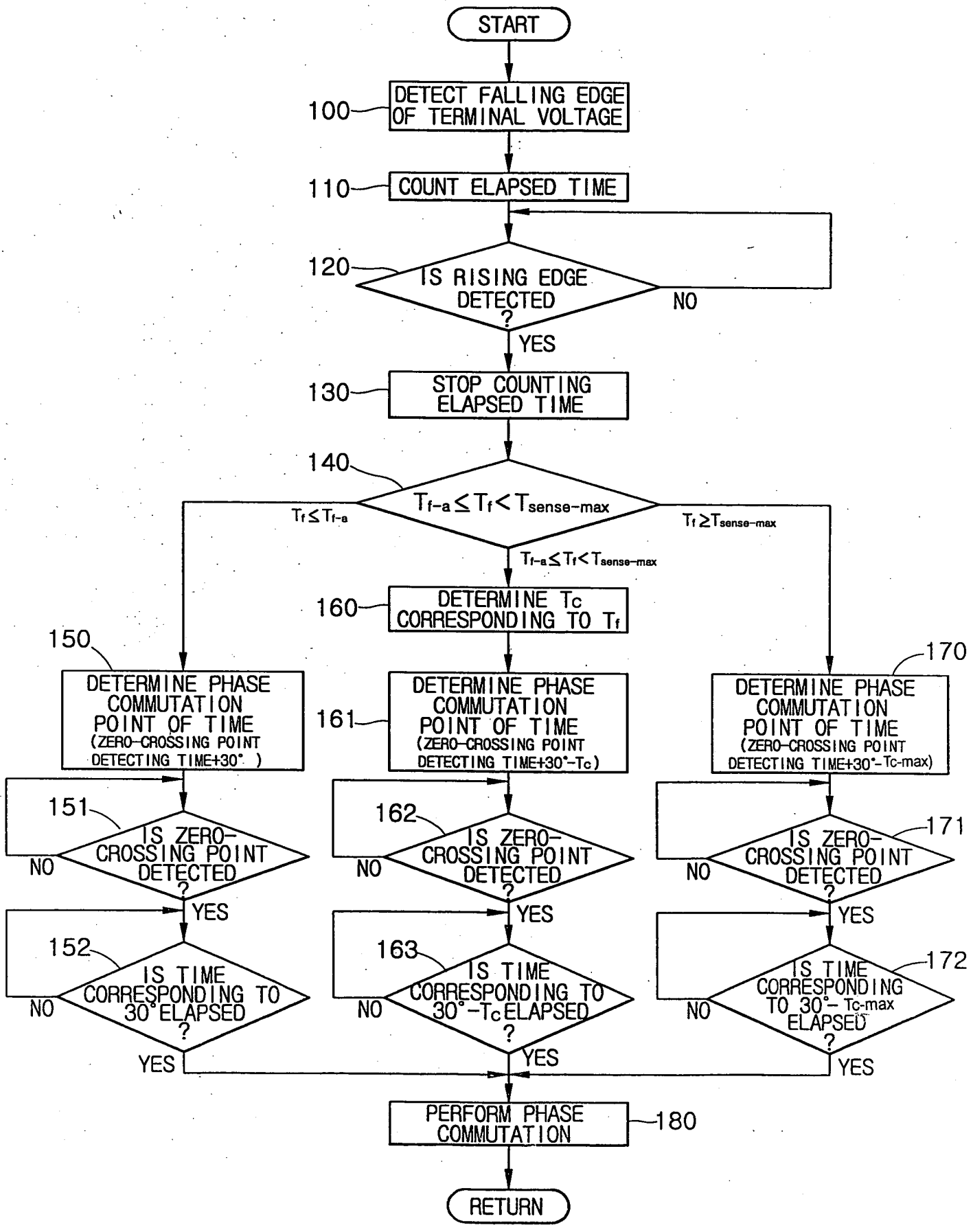


FIG. 6


START
100
DETECT FALLING EDGE OF TERMINAL VOLTAGE
110
COUNT ELAPSED TIME
120
IS RISING EDGE DETECTED ?
NO
YES
130
STOP COUNTING ELAPSED TIME
140
$T_{f-a} \leq T_f < T_{sense-max}$
$T_f \leq T_{f-a}$
$T_f \geq T_{sense-max}$
$T_{f-a} \leq T_f < T_{sense-max}$
160
DETERMINE Tc CORRESPONDING TO Tf
150
DETERMINE PHASE COMMUTATION POINT OF TIME (ZERO-CROSSING POINT DETECTING TIME+30°)
161
DETERMINE PHASE COMMUTATION POINT OF TIME (ZERO-CROSSING POINT DETECTING TIME+30°-Tc)
170
DETERMINE PHASE COMMUTATION POINT OF TIME (ZERO-CROSSING POINT DETECTING TIME+30°-Tc-max)
151
IS ZERO-CROSSING POINT DETECTED ?
NO
YES
162
IS ZERO-CROSSING POINT DETECTED ?
NO
YES
171
IS ZERO-CROSSING POINT DETECTED ?
NO
YES
152
IS TIME CORRESPONDING TO 30° ELAPSED ?
NO
YES
163
IS TIME CORRESPONDING TO 30°-Tc ELAPSED ?
NO
YES
172
IS TIME CORRESPONDING TO 30°- Tc-max ELAPSED ?
NO
YES
PERFORM PHASE COMMUTATION
180
RETURN